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## STRUCTURE AND METHOD FOR IMPROVED SIGNAL PROCESSING

### Abstract of the Disclosure

5           An improved structure and method are provided for signal processing. The structure includes dual-gated metal-oxide semiconducting field effect transistor (MOSFET). The dual-gated MOSFET can be fabricated according to current CMOS processing techniques. The body region of the dual-gated MOSFET is a fully depleted structure. The structure includes two gates which are positioned on  
10 opposite sides of the opposing sides of the body region. Further, the structure operates as one device where the threshold voltage of one gate depends on the bias of the other gate. Thus, the structure yields a small-signal component in analog circuit applications which depends on the product of the signals applied to the gates, and not simply one which depends on the sum of the two signals.

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